REMARKS

Claims 1-57 have been cancelled, and new claims 58-92 have been added. Claims 58-92 remain pending.

The Examiner has rejected claim 26, 35 and 44 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,671,259 (He et al.). Claims 26-28, 33-37 42-46, and 51-53 are also rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,182,139 to Brendal in view of He et al. Claims 29-32, 38-41, and 47-51 are rejected under 35 U.S.C. §103(a) as being unpatentable over Brendel and in further view of He et al. and U.S. Patent No. 6,247,054 (Malkin). Claim 54-57 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,470,389 and in further view of He et al. and Malkin. It is respectfully submitted that new claims 58-92 are patentable over the cited art.

Independent claim 58 is directed towards a "method of facilitating redirection of traffic between a server and a client to between the client and a selected one from a plurality of replicas." Claim 58 also requires "receiving a packet from a client, the packet having a destination identifier associated with a server" and "when the packet is a start packet, at the client side, adding a tag to the start packet to indicate that the start packet should be forwarded by a device other than a client side device to any replica that duplicates the data content of the server." Claim 58 also requires "when a first acknowledgement packet associated with the start packet is received first with respect to any other acknowledgement packets, storing and associating a source identifier of the first acknowledgement packet with the stored destination identifier of the start packet." Claim 58 also requires "after storing and associating the source identifier of the first acknowledgement packet, sending the first acknowledgement packet to the client" and "prior to storing and associating the source identifier of the first acknowledgement packet, cracking the first acknowledgement packet to obtain the source identifier when the first acknowledgement packet has been encapsulated." Claim 58 also requires "when cracked, encapsulating the cracked acknowledgement packet with a source address associated with the packet, wherein the encapsulated first acknowledgement packet is sent to the client." Finally, claim 58 requires "when a second acknowledgement packet associated with the start packet is received after the first acknowledgement packet, inhibiting sending of the second acknowledgement to the client." Claim 63 is directed towards a computer system configured to perform similar operations, and claim 68 is directed towards a computer program product containing program instructions for performing similar operations. Claim 91 is directed towards an apparatus which includes means for performing similar operations.

Claim 73 is directed towards a "method of facilitating redirection of traffic between a server and a client to between the client and a nearest replica selected from a plurality of

replicas." Claim 73 also requires "at the client side, receiving a packet that is traveling between a client and a server or between the client and a replica" and "when the received packet is a start packet that is traveling from the client to the server, at the client side, altering the start packet to indicate that the start packet should be forwarded by a device other than a client side device to any replica that duplicates the data content of the server." Claim 73 also recites "when the received packet is an acknowledgement packet that is received first and spoofs the server, obtaining a source identifier of the replica from the acknowledgement when the acknowledgement originates from the replica and then sending the acknowledgement packet to the client." Claim 73 also requires "when the received packet is an acknowledgement packet that is not received first and spoofs the server, inhibiting sending of the second acknowledgement to the client." Finally, claim 73 also requires "when the received packet is a subsequent packet received after the start packet and the acknowledgement packet, altering the subsequent packet so that it goes to the replica when the subsequent packet originates from the client, wherein the alteration is based on the obtained source identifier from the acknowledgement packet." Claim 79 is directed towards a computer system configured to perform similar operations, and claim 85 is directed towards a computer program product containing program instructions for performing similar operations. Claim 92 is directed towards an apparatus which includes means for performing similar operations.

In other words, at the client side, a start packet is altered (*e.g.,* tagged) to indicate that the start packet is to be forwarded by a device other than a client side device to any replica which duplicates the date of the requested server. In embodiments of the present invention, the task for tagging a start packet to indicate that it should be forwarded to a replica is relegated to a client side device, while the replica forwarding task is relegated to a device other than a client side device, such as a server gateway. A non client side device such as a server gateway will have more knowledge regarding replica configurations for a particular server, as compared with a client side device. Also, a client may utilize any server and their replicas, even if they are not on the client side. In sum, this arrangement allows start packets to be handled more efficiently and diversely than a client side which routes to associated client side replica servers.

When the replicas send their acknowledgements in response to the start packets, only the first received acknowledgement is forwarded to its destination. Acknowledgements which are received after the first acknowledgement packet are inhibited from reaching their destination. Consequently, only the data from the fastest responding (and probably closest) replica forwarded to the client, which allows the most efficient replica to be utilized.

In contrast, the primary reference He et al. discloses a system for load balancing among a plurality of servers. Although a client may send a request to a server which is to be load

balanced, He et al. fails to teach or suggest altering such request so as to indicate that the request is to be sent to *any* replica which duplicates the data of the requested server, in the manner claimed. He et al. is completely silent as to how it is determined that a request is to be load balanced. Arguably, each server may be predefined as a load-balancing candidate and requests which are being initially sent to a defined load-balancing server are only sent to other "load-balancing" servers without alteration of the request. Also, the requests of He et al. are only sent to a single server using load balancing techniques, not to *any* server which replicates the data of the requested server. He et al. also fails to teach or suggest only sending the acknowledgement which is *first* received in response to the start packet to the client and *inhibiting* the sending of any subsequently received acknowledgements to the client, in the manner claimed.

The primary reference Brendal merely teaches a client-side dispatcher that forwards a start packet to multiple servers (Figure 8, and Col. 11). Figure 3 clearly shows that the client side dispatcher 20 is located in the client 10. Thus, Brendal fails to teach or suggest that the start packet is tagged to indicate that a device other than a client side device is to forward the start packet to *any* replica that duplicates the data of the requested server, in the manner claimed. The secondary references also fail to teach or suggest such limitations. Accordingly, it is respectfully submitted that claims 58, 63, 68, 79, 85, 91 and 92 are patentable over the cited references.

The Examiner's rejections of the dependent claims are also respectfully traversed. However, to expedite prosecution, all of these claims will not be argued separately. Claims 59-62, 64-67, 69-78, 80-84, and 86-90 each depend directly from independent claims 58, 63, 68, 79, or 85 and, therefore, are respectfully submitted to be patentable over cited art for at least the reasons set forth above with respect to claims 58, 63, 68, 79, and 85. Further, the dependent claims require additional elements that when considered in context of the claimed inventions further patentably distinguish the invention from the cited art.

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
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